

WASHBURN & GILLIS ASSOCIATES LTD.



**ASSESSMENT OF RARE AND
ENDANGERED VASCULAR PLANT
SPECIES ALONG THE PROPOSED
FUNDY TRAIL (ST. MARTINS TO ALMA)**

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**SUBMITTED TO: DEPARTMENT OF TRANSPORTATION
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DATE: 1990 10 31



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1990 10 31

File: DOT-90-4

Mr. Brian McEwing
Assistant Director
Department of Transportation
P.O. Box 6000
Fredericton, NB
E3B 5H1

Dear Mr. McEwing:

Re: Assessment of Rare Plants Along
Proposed Fundy Trail

We are pleased to submit our final report entitled "Assessment of Rare and Endangered Vascular Plant Species Along the Proposed Fundy Trail (St. Martins to Alma)".

Our survey revealed the presence of one plant species, which is considered rare in New Brunswick, along the proposed alignment. Bartonia paniculata var. intermedia was found along and near Macumber brook, in the Little Salmon River watershed.

We enjoyed the opportunity to conduct this interesting survey. We would be pleased to discuss our findings further at your convenience.

Yours very truly,

Robert Hutt, P.Eng
Vice-President

CM/pdw

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1.0 INTRODUCTION

The Fundy Trail Development Authority Inc. has proposed the development of a parkway between St. Martins and Alma , New Brunswick. In preparation for registration of this project under the Environmental Impact Assessment Regulation of the Clean Environment Act, the Authority had environmental data collected for the area of the proposed parkway alignment. During the data collection exercise, a lack of information was noted pertaining to the rare flora along that section of the Trail between St.Martins and the Little Salmon River. In response to this deficiency, The Department of Transportation, acting as intermediary on behalf of the Authority, retained the services of Washburn & Gillis Associates Ltd. to investigate the presence of rare or endangered vascular plants which could be sensitive to parkway development along the proposed alignment.

2.0 Methodology and Results

The project was conducted in two phases. Phase I identified plant species and sensitive habitat potentially located along the proposed alignment. Phase II consisted of the assessment of the presence of these species in the sensitive habitat areas. The following report summarizes the methodology and results for Phase I and II.

2.1 Phase 1 Results

Only one plant is considered to be endangered in New Brunswick as defined by the Endangered Species Act. Furbish's Lousewort (Pedicularis furbishiae), occurs only along the Saint John River Valley, near Grand Falls. It is thus not within the area of the proposed alignment.

A review of Hinds (1983) revealed the presence of seven rare species known to occur in the area of the province east of Saint John, west of Fundy National Park and south of Sussex.

Dr. H.Hinds (University of New Brunswick [UNB], personal communication, 1990) updated information in Hinds (1983) and indicated additional rare species potentially occurring in the area of the alignment. He revealed that one species previously assigned rare status (Epilobium lactiflorum) was no longer considered rare, while a related species (Epilobium hornemannii) was currently considered rare. In addition, he revealed that the

variety of rare plant identified in Hinds (1983) as Bartonia paniculata var. iodandra was considered to be the same as var. intermedia, and was still considered rare. Table I lists the rare plant species determined to be of concern in the study area.

Typical habitat for each species was determined. The plants listed in Table 1 occur in either calcareous ledges, cliffs and crevices or in moist wetlands and cobble shores. Aerial photographs, orthophoto maps, geology maps, topographic maps and forest inventory maps were used to classify the habitat types in the area of the alignment. In particular, areas which appeared to be damp, wetlands, stream shorelines and cliff faces were identified. This analysis revealed sensitive areas in the locations listed in Table II. Additional sensitive habitats, encountered in the field, were also to be investigated, as suggested by E. Pugh (UNB Transportation Group, personal communication, 1990).

2.2 Phase II - Methodology and Results

Field investigations were conducted between 1990 09 14 and 1990 09 19. At each site where the alignment crossed a stream an area 50-200 metres in length on both sides of the stream was surveyed. The survey extended perpendicular to the stream bank as far as wet habitat persisted. Each wetland area was investigated throughout its entire area. Cliff faces were investigated where ledges and crevices were easily accessible. Sites surveyed are shown in Figure 1.

Table I
Rare Plant Species Potentially Occurring In
Southern New Brunswick, Along The Alignment Of The Fundy Trail.

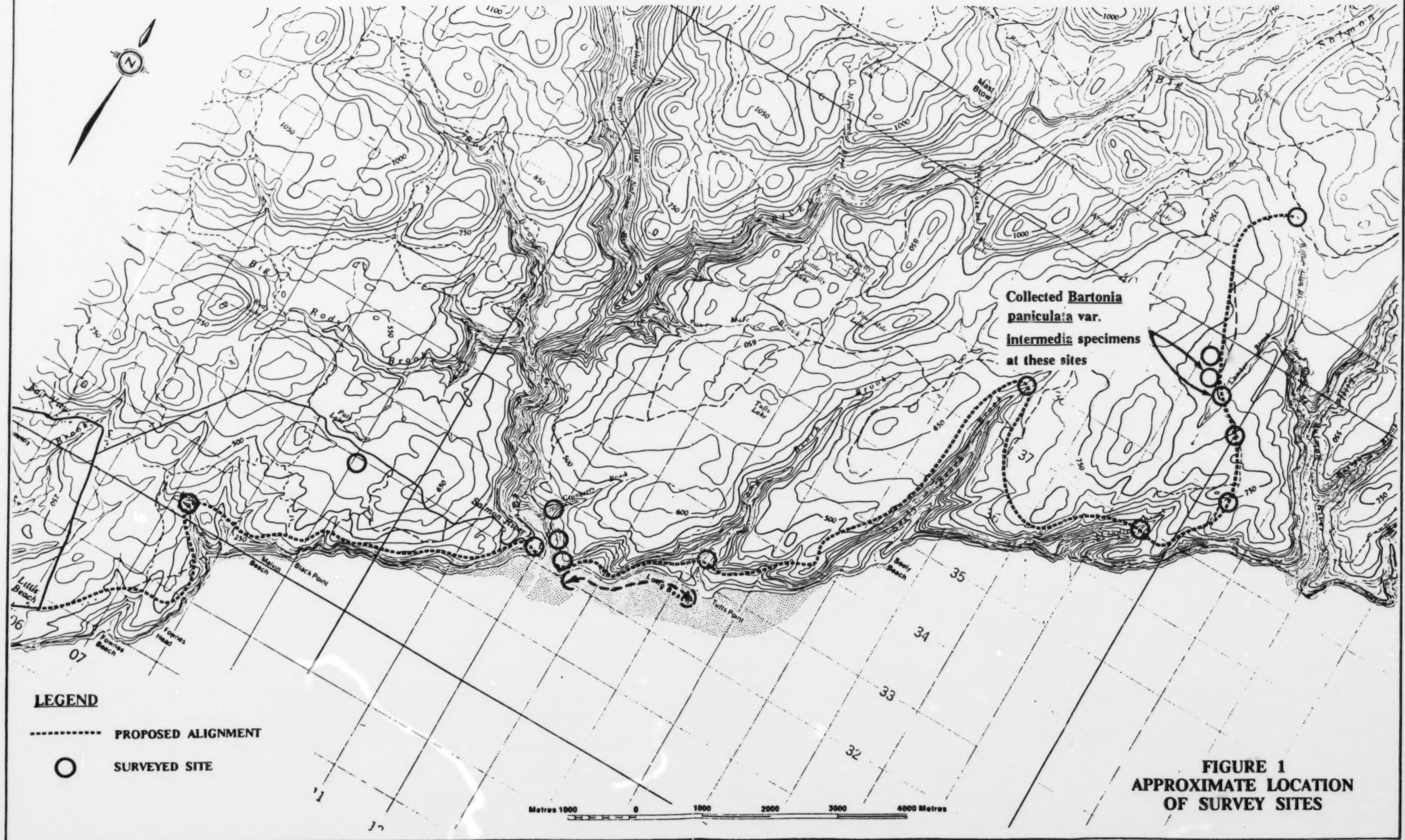
Scientific Name	Common Name	Habitat
<u>Bartonia paniculata</u> var. <u>intermedia</u> *	Screw Stem	cold bogs, cobble shores
<u>Ophioglossum vulgatum</u> var. <u>pseudopodium</u> *	Adder's Tongue	damp sandy and cobble beaches and lake shores, sterile meadows, grassy swamps
<u>Epilobium hornemannii</u> **	Hornmann's Willowherb	deep canyons in cool, shaded spots, banks of cold brooks, mossy areas of shorelines
<u>Primula laurentiana</u> *	Bird's-eye Primrose	dripping cliffs and basalt headlands, chiefly calcareous areas
<u>Scirpus caespitosus</u> var. <u>delicatulus</u> *	Tufted Club -rush	dripping cliffs, cliff crevices, wet calcareous ledges
<u>Draba arabisans</u> *	Whitlow Grass	dry exposed calcareous ledges, talus slopes, crevices of high cliff ledges
<u>Saxifraga paniculata</u> *	Livelong Saxifrage	moist and dry calcareous ledges
<u>Salaginella selaginoides</u> **	-	bogs, around brooks and shorelines, in moss, calcareous sinks
<u>Lycopodium selago</u> **	Fir Clubmoss	cool shaded crevices and cliffs
<u>Woodsia glabella</u> **	Smooth Woodsia	limestone cliffs, in shaded crevices, moist calcareous ledges

* Identified in Hinds, 1983.

** Suggested by Dr.H.Hinds, UNB, as additional rare species potentially occurring in the study area.

Table II
Sensitive Habitat Areas Along The
Alignment Of The Proposed Fundy Trail.

Area	Habitat	Relation to Alignment
Fuller Brook	Stream shoreline	Stream crossing
Big Salmon River	Stream shoreline	Stream crossing
Wetland areas northwest of crossing on Big Salmon River	Damp wetland areas	Adjacent to alignment
Cranberry Brook	Stream shoreline	Adjacent to alignment
Long Beach Brook	Stream shoreline	Stream crossing
Sealy Beach Brook	Stream shoreline	Stream crossing
Cradle Brook	Stream shoreline	Stream crossing
Wetlands northeast of Cradle Brook	Damp wetlands areas	Stream crossing
Walton Glen Brook	Stream shoreline	Stream crossing
Macumber Brook	Stream shoreline	Stream crossing
Wetland areas north of Macumber Brook	Damp wetland areas	Adjacent to alignment
Cliff faces between Big Salmon River & Long Beach Brook	Cliff faces, crevices	Adjacent to alignment



The survey found one species identified in Phase I within the study area. Bartonia paniculata var. intermedia, previously reported to occur in the Little Salmon River watershed (Hinds, 1983), was collected along and near Macumber Brook on this watershed (see Figure 1). The plant was found growing singly in three specific locations. A few plants were found in sphagnum moss next to a small damp depression adjacent to Macumber Brook. One plant was collected next to a small intermittent stream flowing into Macumber Brook. Several plants were found in patches scattered among sphagnum moss in a damp depression just west of the alignment, north of Macumber Brook.

3.0 CONCLUSION

The presence of the rare vascular plant Bartonia paniculata var. intermedia along the current alignment of the Fundy Trail, suggests that it may be necessary to alter the alignment so as not to disturb or damage this species or its habitat. Since the plant is known only to occur in colder bogs and cobble shorelines it would be sufficient to shift the alignment inland away from the damp wetlands and stream crossings of the Little Salmon River watershed.

4.0 REFERENCES

Hinds, H.R. 1983. The rare vascular plants of New Brunswick. Syllogeus No. 50. National Museum of Canada.